WHAT IS CLAIMED IS:

1. A double-sided ferrule manufacturing method comprising the steps of: preparing a ferrule forming an insertion opening which allows insertion of a fiber ribbon in one end surface of a ferrule; arranging fiber minute holes ahead of the insertion opening, optical fibers obtained by removing an end portion of the fiber ribbon inserted into the insertion opening being capable of being inserted into the fiber minute holes; forming the other end surface of the ferrule as a joint end surface in which the end surfaces of the optical fibers inserted into the fiber minute holes can be exposed; cutting the ferrule at some midpoint in the fiber ribbon inserting direction in the direction in which the fiber minute holes are arranged to thereby form a member equipped with the joint end surface; preparing two members each equipped with such a joint end surface; and causing the cut surfaces of the two members to butt against each other and gluing them together to thereby form a ferrule having two joint end surfaces.

2. A double-sided ferrule manufacturing method according to Claim 1, wherein a guide pin is inserted into guide pin holes of the two members communicating with each other by butting the cut surfaces against each other to effect alignment on the two members before gluing the butting cut surfaces to each other.

3. A double-sided ferrule manufacturing method according to Claim 2, wherein oil is previously applied to the outer peripheral

surface of the guide pin.

4. A double-sided ferrule manufacturing method comprising the steps of: preparing an auxiliary member equipped with a guide pin insertion hole, guide grooves for guiding optical fibers, and optical fiber insertion holes into which the optical fibers can be inserted; inserting a guide pin into the guide pin insertion hole of the auxiliary member and into a guide pin insertion hole of a double-sided ferrule to connect the auxiliary member and the double-sided ferrule with each other; inserting the optical fibers into the optical fiber insertion holes from the guide grooves of the auxiliary member to cause them pass through the insertion holes; and inserting the optical fibers into optical fiber insertion holes of the double-sided ferrule.

5. A double-sided ferrule manufacturing method according to Claim 4, wherein the auxiliary member consists of a divisional ferrule obtained by dividing into two a ferrule equipped with two guide pin insertion holes, an optical fiber insertion opening which allows insertion of a fiber ribbon, a plurality of guide grooves for guiding optical fibers, and optical fiber insertion holes into which the optical fibers can be inserted, and wherein the divisional ferrule is the optical fiber insertion hole side divisional ferrule of two divisional ferrules obtained by cutting the portion between the optical fiber insertion opening and the optical fiber insertion holes of a ferrule across the guide pin insertion holes and the

guide grooves.

6. A double-sided ferrule manufacturing method according to Claim 4 or 5, wherein the auxiliary member and the double-sided ferrule are connected by guide pins so as to be opposed to each other with a gap therebetween.

7. A double-sided ferrule manufacturing method according to one of Claims 4 through 6, wherein each of the guide pins is equipped with an insertion restricting portion for restricting the insertion thereof into the auxiliary member and into the double-sided ferrule.

8. An auxiliary member for use in the double-sided ferrule manufacturing method according to any one of Claims 4 through 7, the auxiliary member comprising: guide pin insertion holes, guide grooves for individually guiding optical fibers, and optical fiber insertion holes which are formed ahead of the guide grooves and into which the optical fibers can be individually inserted.

9. An auxiliary member for use in the double-sided ferrule manufacturing method according to any one of Claims 4 through 7, wherein the auxiliary member consists of an optical fiber insertion hole side divisional ferrule of two divisional ferrules obtained by cutting a ferrule equipped with guide pin insertion holes, an optical fiber insertion opening into which optical fibers can be inserted, guide grooves for guiding the optical fibers, and optical fiber insertion holes into which the optical fibers can be inserted, across the guide pin insertion holes and the guide grooves into

an optical fiber insertion opening side portion and an optical fiber insertion holes side portion.

10. A double-sided ferrule end surface polishing method comprising the steps of: preparing two members in each of which one end surface is formed as a joint end surface having two guide pin holes and a plurality of fiber minute holes arranged between the guide pin holes and the other end surface is formed as a gluing end surface, the guide pin holes extending from one end surface to the other end surface; causing the gluing end surface of these two members to butt against each other and gluing them together such that their respective guide pin holes communicate with each other; inserting optical fibers from the fiber minute holes of one member to the fiber minute holes of the other member and fixing the optical fibers to the two members to obtain a double-sided ferrule; and polishing an end surface of the double-side ferrule, with reinforcing members being inserted into the guide pin holes of the two members communicating with each other.

11. A double-sided ferrule end surface polishing method comprising the steps of: preparing two members in each of which one end surface is formed as a joint end surface having two guide pin holes and a plurality of fiber minute holes arranged between the guide pin holes and the other end surface is formed as a gluing end surface, the guide pin holes extending from one end surface to the other end surface; causing the gluing end surface of these

two members to butt against each other and gluing them together such that their respective guide pin holes communicate with each other; inserting optical fibers from the fiber minute holes of one member to the fiber minute holes of the other member and fixing the optical fibers to the two members to obtain a double-sided ferrule; and polishing an end surface of the double-side ferrule, with the two members being fixed by a jig astride the end surfaces of the two members glued to each other.

12. An optical connector assembling method in which optical fibers inserted into insertion holes are fixed to a ferrule by an adhesive, wherein after injecting the adhesive into an inlet of optical fiber insertion holes and into an injection window formed in the ferrule so as to communicate with the optical fiber insertion holes, the optical fibers are inserted into the optical fiber insertion holes from the inlet and the adhesive is forced into the optical fiber insertion holes.

13. An optical connector assembling method in which optical fibers inserted into insertion holes are fixed to a ferrule by an adhesive, wherein after inserting the optical fibers into optical fiber insertion holes, the adhesive is injected into an injection window formed in the ferrule so as to communicate with the optical fiber insertion holes, and the adhesive is applied to an inlet side and an outlet side of the optical fiber insertion holes, the fibers being reciprocated (stroked) in the inserting direction to fill

the optical fiber holes with the adhesive.

14. An optical connector assembling method in which optical fibers inserted into insertion holes are fixed to a ferrule by an adhesive, wherein the optical fibers are inserted into optical fiber insertion holes, which are filled with the adhesive, and, before the adhesive cures, an optical fiber coating portion of a fibber ribbon on the outer side of the ferrule is cut off to release the optical fibers from the restraint by the coating portion before allowing the adhesive to cure.

15. An optical connector assembling method in which optical fibers inserted into insertion holes are fixed to a ferrule by an adhesive, wherein after allowing the adhesive to undergo thermosetting, a temperature not lower than glass transition temperature is applied to the adhesive to eliminate the distortion of the adhesive generated at the time of thermosetting, then the adhesive is restored from the glass transition temperature to room temperature over a period of time long enough not to generate distortion in the adhesive.

16. An optical connector in which optical fibers inserted into insertion holes are fixed to a ferrule by an adhesive for assembly, wherein after injecting the adhesive into an inlet of optical fiber insertion holes and into an injection window formed in the ferrule so as to communicate with the optical fiber insertion holes, the bare fibers are inserted into the optical fiber insertion

holes from the inlet and the adhesive is forced into the optical fiber insertion holes for assembly.

17. A guide pin in the form of a bar adapted to be inserted into guide pin holes of a pair of optical connectors connected through butting, wherein a longitudinal part of the guide pin is formed as a fixing portion that can be forced into the guide pin hole of one optical connector for fixation, the outer diameter of the fixing portion being larger than that of the remaining portion of the guide pin.

18. A guide pin in the form of a bar adapted to be inserted into guide pin holes of a pair of optical connectors connected through butting, wherein a longitudinal part of the guide pin is formed as a fixing portion that can be forced into the guide pin hole of one optical connector for fixation, the fixing portion having a large number of engagement protrusions that can be engaged with the inner peripheral surface of the guide pin hole.

19. A guide pin according to Claim 17, wherein, assuming that the maximum outer diameter of the fixing portion is R1 (μm) and that the inner diameter of the guide pin holes of the optical connector is R2 (μm), the following relationship is satisfied: $R2 \leqq R1 \leqq R2 + 2\ \mu m$.

20. A guide pin according to Claim 18, wherein, assuming that the maximum outer diameter of the fixing portion is R1 (μm) and that the inner diameter of the guide pin holes of the optical

connector is R2 (μm), the following relationship is satisfied: R2 $\leqq$ R1 $\leqq$ R2 + 10 μm.

21. An optical connector connecting method comprising the steps of: inserting the guide pin according to any one of Claims 17 through 20 into the guide pin hole of one optical connector from the end surface side on the opposite side of the joint end surface of the optical connector so as to cause a longitudinal part of the guide pin to outwardly protrude from the joint end surface; and inserting the protruding longitudinal part of the guide pin into the guide pin hole of the other optical connector from the joint end surface side of the optical connector to thereby connect the joint end surfaces of the two optical connectors butting against each other.